

REMARKS

Entry of the foregoing, reexamination and further and favorable reconsideration of the subject application in light of the following remarks, pursuant to and consistent with 37 C.F.R. § 1.112, are respectfully requested.

As noted in the Office Action Summary, claims 1-71 are pending. Claims 1-9, 12-30 and 33-40 stand withdrawn. Claims 10, 11, 31 and 70 are canceled herein. Applicants reserve the right to file at least one continuation or divisional directed to any subject matter canceled by way of the present Amendment.

Claims 32, 41, 47, 48, 54, 55, 62, 63, 69 and 71 are amended herein. Basis for the amendments may be found throughout the specification and claims as-filed especially at Tables 1, 2 and 5; page 11, lines 12-21, and the sequence listing as-filed, reciting SEQ ID NO:1. Thus, no new matter is added by way of the present Amendment.

Priority

A certified, English copy of the priority document, French Application No. 99 11097, is submitted herewith. Applicants submit that the submission of this document perfects priority, and request acknowledgement accordingly.

Specification

The specification is objected to for purportedly containing embedded hyperlinks. The specification is amended herein to remove references to hyperlinks. Thus, this objection is obviated.

Claim Objections

Claims 10, 11, 31, 32, 47, 54, 62, 69, and 71 are objected to for purportedly containing non-elected subject matter, as they depend on non-elected claims 1 and 5. Claims 10, 11 and 31 are canceled herein. Claims 32, 47, 54, 62, 69 and 71 are amended herein to no longer depend upon claims 1 or 5. Thus, this objection is obviated.

Claims 47, 54, 62, 69, and 71 are objected to for purportedly reciting SEQ ID NO: 4-71, wherein SEQ ID NO: 1 is under examination. The claims are amended

herein to remove the reference to SEQ ID NOs: 4-71, and to recite sequences from the elected subject matter, *i.e.*, SEQ ID NO:1, as suggested by the Examiner. Thus, this objection is obviated.

Claim 70 is objected to as purportedly being a substantial duplicate of claim 55. Claim 70 is canceled herein. Thus, this objection is moot.

Rejections under 35 U.S.C. § 112, Second Paragraph

Claims 10, 11, 31, 32, and 41-71 stand rejected under 35 U.S.C. § 112, second paragraph, as purportedly indefinite.

Claims 10, 11, 31, 32, and 55-71 stand rejected as purportedly incomplete for omitting essential steps. The Examiner argues that the claims fail to recite how to identify a mutation in the SPG4 gene and how to diagnose AD-HSP associate with SPG4 gene. Claims 10, 11, 31 and 70 are canceled herein. Claims 32, 55-69 and 71 are amended herein. Specifically, claim 32 is amended to recite that if the amplification products comprise a sequence associated with the presence of at least one mutation in a sequence of the SPG4 gene, AD-HSP is diagnosed in the patient, in order to clarify how the mutation is identified and how it is associated with the diagnosis of AD-HSP. Claims 55-69 and 71 are amended to recite the diagnosis step of "if the biological sample comprises a sequence associated with the presence of at least one mutation in the SPG4 gene, an autosomal dominant hereditary spastic paraplegia is diagnosed in the human". In light of these amendments, Applicants submit that the rejection is obviated.

Claims 41-54 stand rejected as purportedly unclear with regard to which segment of DNA is amplified. Claims 41-54 are amended herein to recite that the amplified DNA is that of the SPG4 gene, as well as that if the DNA sequence of the amplification product is different from the DNA sequence of the wild-type SPG4 gene, then one or more polymorphisms in the SPG4 gene of the sample has been detected. Thus, in light of the amendments to the claims, this rejection is obviated.

Rejections under 35 U.S.C. § 102(a)

Claims 10, 41-46 stand rejected under 35 U.S.C. § 102(a) as purportedly anticipated by Hazan *et al.* (*Nature Genetics*, 23: 296-303 (1999)). Hazan *et al.*

purportedly disclose a method for detecting one or more polymorphisms in the SPG4 gene of a human biological sample by amplifying SPG4 gene, sequencing the amplification product and comparing the sequence of the amplification product with the wild type gene.

The Examiner notes in the outstanding Office Action that the cited reference, Hazan et al., is available as a reference under 35 U.S.C. § 102(a) because she asserts that priority for the present application has not yet been perfected. To this end, the certified copy of the priority document, French Application No. 99 11097 is submitted herewith. Applicants assert that the submission of this document perfects priority, and thus the present application is entitled to the benefit of the priority date of September 3, 1999. Therefore, the present application predates the effective date of Hazan et al., November 1999, and Hazan is not available as a cited reference against the present claims.

In light of the above remarks, this rejection is moot, and Applicants request that it be withdrawn.

CONCLUSION

In view of the foregoing, further and favorable action in the form of a Notice of Allowance is believed to be next in order. Such action is earnestly solicited. In the event that there are any questions relating to this application, it would be appreciated if the Examiner would telephone the undersigned attorney so that prosecution of this application may be expedited.

In the event any further fees are due to maintain pendency of this application, the Examiner is authorized to charge such fees to Deposit Account No. 02-4800.

Respectfully submitted,

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